

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A wireless optical system which comprises a transmitting section having a light-emitting element and a transmission light condenser lens, and a receiving section having a light-detecting element and a received light condenser lens, and which communicates with a counterpart device, the wireless optical system further comprising:

scanning means which scans said light-emitting element relative to said transmission light condenser lens; and lens using a straight line movement of the light-emitting element relative to the transmission condenser lens; and

control means which controls a transmission direction of transmission light transmitted from said light-emitting element by driving said scanning means.

2. (Currently Amended) A wireless optical system which comprises a transmitting section having a light-emitting element and a transmission light condenser lens, and a receiving section having a light-detecting element and a received light condenser lens, and which communicates with a counterpart device, the wireless optical system further comprising:

scanning means which scans said light-detecting element relative to said received light condenser lens; and lens using a straight line movement of the light-detecting element relative to the received light condenser lens; and

control means which controls a reception direction of received light received by said light-detecting element by driving said scanning means.

3. (Currently Amended) A wireless optical system which comprises a transmitting section having a light-emitting element and a transmission light condenser lens,

and a receiving section having a light-detecting element and a received light condenser lens, and which communicates with a counterpart device, the wireless optical system further comprising:

scanning means which scans said light-emitting element relative to said transmission light condenser lens, and scans said light-detecting element relative to said received light condenser ~~lens; and~~ lens, the scanning means scanning using straight line movements of the light-emitting element and/or light-detecting element relative to the transmission and/or received light condenser lenses, respectively; and

control means which controls a transmission direction of transmission light transmitted from said light-emitting element by driving said scanning means, and controls a reception direction of received light received by said light-detecting element by driving said scanning means.

4. (Original) A wireless optical system which comprises a transmitting section according to claim 1, said scanning means two-dimensionally scans said light-emitting element.

5. (Original) A wireless optical system which comprises a transmitting section according to claim 2, said scanning means two-dimensionally scans said light-detecting element.

6. (Original) A wireless optical system which comprises a transmitting section according to claim 3, said scanning means two-dimensionally scans said light-emitting element and two-dimensionally scans said light-detecting element.

7. (Original) The wireless optical system according to claim 4, wherein one common condenser lens is used as both said transmission light condenser lens and said received light condenser lens, and

said light-emitting element and said light-detecting element are disposed such that the transmission light and the received light are transmitted and received through said common condenser lens.

8. (Original) The wireless optical system according to claim 5, wherein one common condenser lens is used as both said transmission light condenser lens and said received light condenser lens, and

said light-emitting element and said light-detecting element are disposed such that the said transmission light and the received light are transmitted and received through said common condenser lens.

9. (Original) The wireless optical system according to claim 6, wherein one common condenser lens is used as both said transmission light condenser lens and said received light condenser lens, and

said light-emitting element and said light-detecting element are disposed such that the said transmission light and the received light are transmitted and received through said common condenser lens.

10. (Previously Presented) The wireless optical system according to claim 5, wherein said light-detecting element includes a plurality of light-detecting cells arranged in a two-dimensional array, and

said control means drives said scanning means to limit said light-detecting cells to four or less number of cells which receive light among the plurality of light-detecting cells.

11. (Previously Presented) The wireless optical system according to claim 6, wherein said light-detecting element includes a plurality of light-detecting cells arranged in a two-dimensional array, and

said control means drives said scanning means to limit said light-detecting cells to four or less number of cells which receive light among the plurality of light-detecting cells.

12. (Previously Presented) The wireless optical system according to claim 10, wherein the plurality of light-detecting cells are configured from a plurality of CCDs or MOS elements.

13. (Previously Presented) The wireless optical system according to claim 10, wherein the plurality of light-detecting cells are configured from a plurality of photodiodes or avalanche photodiodes.

14. (Previously Presented) The wireless optical system according to claim 4, wherein said light-detecting element is disposed in a vicinity of a focal point of said received light condenser lens, and is configured from a single light detecting element which is equal in size to a diameter of a light-condensed spot formed by said received light condenser lens.

15. (Previously Presented) The wireless optical system according to claim 5, wherein said light-detecting element is disposed in a vicinity of a focal point of said received light condenser lens, and is configured from a single light detecting element which is equal in size to a diameter of a light-condensed spot formed by said received light condenser lens.

16. (Previously Presented) The wireless optical system according to claim 6, wherein said light-detecting element is disposed in a vicinity of a focal point of said received light condenser lens, and is configured from a single light detecting element which is equal in size to a diameter of a light-condensed spot formed by said received light condenser lens.

17. (Previously Presented) The wireless optical system according to claim 4, wherein said light-detecting element is disposed in a vicinity of a focal point of said received light condenser lens, and is constituted from a pair of light detecting elements which are equal in size to a diameter of a light-condensed spot formed by said received light condenser lens.

18. (Previously Presented) The wireless optical system according to claim 5, wherein said light-detecting element is disposed in a vicinity of a focal point of said received light condenser lens, and is constituted from a pair of light detecting elements which are equal in size to a diameter of a light-condensed spot formed by said received light condenser lens.

19. (Previously Presented) The wireless optical system according to claim 6, wherein said light-detecting element is disposed in a vicinity of a focal point of said received light condenser lens, and is constituted from a pair of light detecting elements which are equal in size to a diameter of a light-condensed spot formed by said received light condenser lens.

20. (Previously Presented) The wireless optical system according to claim 4, wherein said light-emitting element is formed over said light-detecting element.

21. (Previously Presented) The wireless optical system according to claim 5, wherein said light-emitting element is formed over said light-detecting element.

22. (Previously Presented) The wireless optical system according to claim 6, wherein said light-emitting element is formed over said light-detecting element.

23. (Previously Presented) The wireless optical system according to claim 14, wherein

said scanning means periodically wobbles a position of said single light detecting element; and

said control means generates a positional error signal pertaining to a transmission direction of a counterpart device by detecting a received light in synchronization with a wobbling cycle of said single light detecting element, and optimizes transmission and reception directions based on the positional error signal.

24. (Previously Presented) The wireless optical system according to claim 15, wherein

said scanning means periodically wobbles a position of said single light detecting element; and

said control means generates a positional error signal pertaining to a transmission direction of a counterpart device by detecting a received light in synchronization with a wobbling cycle of said single light detecting element, and optimizes transmission and reception directions based on the positional error signal.

25. (Previously Presented) The wireless optical system according to claim 16, wherein

said scanning means periodically wobbles a position of said single light detecting element; and

said control means generates a positional error signal pertaining to a transmission direction of a counterpart device by detecting a received light in synchronization with a wobbling cycle of said single light detecting element, and optimizes transmission and reception directions based on the positional error signal.

26. (Currently Amended) An optical wireless system which communicates between a master device and a slave device, wherein

said master device and said slave device respectively comprise a transmitting section having a light-emitting element and a transmission light condenser lens, and a receiving section having a light-detecting element and a received-light condenser lens, and

at least one of said master device and said slave device comprises:

scanning means which two-dimensionally scans said light-emitting element relative to said transmission light condenser lens, and two-dimensionally scans said light-detecting element relative to said received light condenser lens; condenser lens, the scanning means scanning using straight line movements of the light-emitting element and/or light-

detecting element relative to the transmission and/or received light condenser lenses, respectively;

measuring means which measures a direction of a received light transmitted from said master device or said slave device; and

control means which drives said scanning means to control a transmission direction of a transmission light transmitted from said light-emitting element and a reception direction of the received light received by said light-detecting element based on measurement result of said measuring means.

27. (Previously Presented) The wireless optical system according to claim 26, wherein said light-emitting element of said master device and said slave device emit the transmission light at different wavelengths.

28. (Original) The wireless optical system according to claim 27, wherein said light-emitting element of said slave device emits the transmission light at a wavelength which is shorter than that of the transmission light emitted from said light-emitting element of said master device.

29. (Original) The wireless optical system according to claim 27, wherein said light-emitting element of said master device emits the transmission light having a wavelength of 1.4 to 1.6 μm , and

said light-emitting element of said slave device emits the transmission light having a wavelength of 0.8 to 1 μm .

30. (Previously Presented) The wireless optical system according to claim 26, wherein at least one of said master device and said slave device detects a direction of the received light emitted from said master device or said slave device, and communicates by transmitting the transmission light in the direction of the received light.

31. (Previously Presented) The wireless optical system according to claim 26, wherein said slave device two-dimensionally scans said light-emitting element, and said master device measures a direction of a received light and communicates by transmitting a transmission light in the direction.

32. (Previously Presented) The wireless optical system according to claim 1, wherein said control means also controls a directional angle of the transmission light by driving said scanning means.

33. (Previously Presented) The wireless optical system according to claim 3, wherein said control means also controls a directional angle of the transmission light by driving said scanning means.

34. (Previously Presented) The wireless optical system according to claim 2, wherein said control means also controls a directional angle of the received light by driving said scanning means.

35. (Previously Presented) The wireless optical system according to claim 3, wherein said control means also controls a directional angle of the received light by driving said scanning means.

36. (Original) The wireless optical system according to claim 1, wherein one common condenser lens is used as both said transmission light condenser lens and said received light condenser lens, and said light-emitting element and said light-detecting element are disposed such that the transmission light transmitted from said light-emitting element and the received light received by said light-detecting element are transmitted and received through said common condenser lens.

37. (Original) The wireless optical system according to claim 2, wherein one common condenser lens is used as both said transmission light condenser lens and said received light condenser lens, and

said light-emitting element and said light-detecting element are disposed such that the transmission light transmitted from said light-emitting element and the received light received by said light-detecting element are transmitted and received through said common condenser lens.

38. (Original) The wireless optical system according to claim 3, wherein one common condenser lens is used as both said transmission light condenser lens and said received light condenser lens, and

said light-emitting element and said light-detecting element are disposed such that the transmission light transmitted from said light-emitting element and the received light received by said light-detecting element are transmitted and received through said common condenser lens.

39. (Previously Presented) The wireless optical system according to claim 1, wherein said light-emitting element is disposed in a vicinity of a position of a focal point of said transmission light condenser lens,

said scanning means supports said light-emitting element in a three-dimensionally movable manner, and

said control means controls a transmission direction and a directional angle of the transmission light, by driving said scanning means to three-dimensionally move said light-emitting element.

40. (Previously Presented) The wireless optical system according to claim 3, wherein said light-emitting element is disposed in a vicinity of a position of a focal point of said transmission light condenser lens,

said scanning means supports said light-emitting element in a three-dimensionally movable manner, and

said control means controls a transmission direction and a directional angle of the transmission light, by driving said scanning means to three-dimensionally move said light-emitting element.

41. (Previously Presented) The wireless optical system according to claim 2, wherein said light-detecting element is disposed in a vicinity of a position of a focal point of said received light condenser lens,

said scanning means supports said light-detecting element in a three-dimensionally movable manner, and

said control means controls a reception direction and a directional angle of the received light, by driving said scanning means to three-dimensionally move said light-detecting element.

42. (Original) The wireless optical system according to claim 3, wherein said light-detecting element is disposed in vicinity of a position of a focal point of said received light condenser lens,

said scanning means supports said light-detecting element in a three-dimensionally movable manner, and

said control means controls a reception direction and a directional angle of the received light, by means of driving said scanning means to three-dimensionally move said light-detecting element.

43. (Previously Presented) The wireless optical system according to claim 2, wherein said light-detecting element includes a plurality of light-detecting cells arranged in a two-dimensional array, and

said control means drives said scanning means to limit said light-detecting cells to four or less number of cells which receive light among the plurality of light-detecting cells.

44. (Previously Presented) The wireless optical system according to claim 3, wherein said light-detecting element includes a plurality of light-detecting cells arranged in a two-dimensional array, and

said control means drives said scanning means to limit said light-detecting cells to four or less number of cells which receive light among the plurality of light-detecting cells.

45. (Currently Amended) An optical wireless system which communicates between a master device and a slave device, wherein

said master device and said slave device respectively comprise a transmitting section having a light-emitting element and a transmission light condenser lens, and a receiving section having a light-detecting element and a received-light condenser lens, and

at least one of said master device and said slave device comprises:

scanning means which scans said light-emitting element relative to said transmission light condenser lens, and scans said light-detecting element relative to said received light condenser lens; and lens, the scanning means scanning using straight line movements of the light-emitting element and/or light-detecting element relative to the transmission and/or received light condenser lenses, respectively; and

control means which drives said scanning means to control said transmission direction of a transmission light transmitted from said light-emitting element and a reception direction of a received light received by said light-detecting element.

46. (Canceled)

47. (Previously Presented) The wireless optical system according to claim 45, wherein said transmitting section of at least one of said master device and said slave device transmits transmission light having a first directional angle, and

said receiving section of the at least one of said master device and said slave device receives the transmission light having the first directional angle, and starts a communication with said transmitting section, and

wherein, subsequently, said transmitting section or said receiving section performs the communication using a narrower directional angle of the transmission light or the received light than the first directional angle.